In the Specification:

Replace the paragraph beginning on page 1, line 8 with the following paragraph:

Fig. 1 shows a schematic diagram of a known road wheel control system 100. The road wheel control system 100 includes two road wheels 101, two tie rods 102, a road wheel actuator 103 and its amplifier 104, a road wheel angle sensor 106, and a road wheel controller 107. A reference angle input signal 108 to the road wheel controller 107 comes from the road wheel angle input device 105. In operation, the road wheel angle input device 105 may be an actuator based steering control system, force feedback joystick or any device with the function to provide a reference input angle 108 to the road wheel control system 100 and the steering fee for the driver at the same time, such as, U.S. patent serial number 10/037,060 entitled Steering Control With Variable Damper Assistance And Method Implementing The Same, Brinks, Hofer, Gilson & Lione docket number 10541-118, Visteon Corp. docket number V200-346 and filed concurrently with the present invention the entire contents of each of which is incorporated herein. The road wheel control system 100 and its angle input device (steering wheel control system) 105 include a so-called well known steer by wire control system. In a steer-by-wire system, the mechanical linkage between steering wheel and road wheels has been eliminated. The steering wheel angle command signal (designated as driver input) is translated to a road wheel angle by using electric analog or digital signals.

Replace the paragraph beginning on page 3, line 6 with the following paragraph:

One aspect of the present invention is to provide a road wheel fuzzy logic control system for an automotive vehicle. The road wheel fuzzy logic control system has a fuzzy logic control unit. The fuzzy logic control unit receives a plurality of input signals, and generates a control output signal. The road wheel fuzzy logic control system also has a road wheel subsystem that receives the control output signal and generates an output feedback signal to the fuzzy logic control unit. The fuzzy logic control unit tracks an input signal under the effects of uncertainty and disturbance from the road wheel subsystem and vehicle dynamics and controls the effects of the uncertainty and disturbance and provides vehicle stability control.

Replace the paragraph beginning on page 3, line 16 with the following paragraph:

Another aspect of the present invention is to provide a method of implementing a fuzzy logic strategy for a fuzzy logic control system used in a road wheel control system. This is accomplished by generating linguistic variables from a numerical input variable of a road wheel system, generating a hypothesis based on the linguistic variable and a fuzzy rule, and generating a numerical output variable from the hypothesis to control the road wheel system and generating the numerical input variable by applying the numerical output variable to a road wheel and a vehicle dynamic signal.

Replace the paragraph beginning on page 12, line 2 with the following paragraph:

In a preferred embodiment, multiple membership functions given in Table 1 are expressed in Fig. 5. Each of these membership functions has the same shape. However, as the variable x cycles through the membership functions listed in table 1, the number of triangular shaped curves and their placement (points in the horizontal axis, $p_1, p_2, \ldots, p_7$) may change. The equations for the membership functions in Table 1 and Fig. 5 may be expressed as follows

$$\mu_e = \{\mu_{NL}(e), \mu_{NM}(e), \mu_{NS}(e), \mu_{ZE}(e), \mu_{PM}(e), \mu_{PL}(e)$$

$$\mu_{\Delta e} = \{\mu_{NL}(\Delta e), \mu_{NM}(\Delta e), \mu_{NS}(\Delta e), \mu_{ZE}(\Delta e), \mu_{PS}(\Delta e), \mu_{PM}(\Delta e), \mu_{PL}(\Delta e)\}$$

$$\mu_{ur} = \{\mu_{NL}(u_r), \mu_{NM}(u_r), \mu_{NS}(u_r), \mu_{ZE}(u_r), \mu_{PS}(u_r), \mu_{PM}(u_r), \mu_{PL}(u_r)$$

$$\mu_{ea} = \{\mu_{NL}(e_a), \mu_{NM}(e_a), \mu_{NS}(e_a), \mu_{ZE}(e_a), \mu_{PS}(e_a), \mu_{PM}(e_a), \mu_{PL}(e_a)\}$$

$$\mu_r = \{\mu_{NL}(r), \mu_{NM}(r), \mu_{NS}(r), \mu_{ZE}(r), \mu_{PS}(r), \mu_{PM}(r), \mu_{PL}(r)$$

$$\mu_{u_v} = \{\mu_{NL}(u_v), \mu_{NM}(u_v), \mu_{NS}(u_v), \mu_{ZE}(u_v), \mu_{PS}(u_v), \mu_{PM}(u_v), \mu_{PL}(u_v)$$

Replace the paragraph beginning on page 17, line 6 with the following paragraph:

All rules of the fuzzy logic controllers 302 and 305 are given in Table 2 and Table 3, respectively. The input variables and their labels are laid out along the axes, and labels of output variable are inside the table. In Table 2, the rules are written in the form: "If the error e is l_e and error change Δe is $l_{\Delta e}$, then output Δu_r, is l_{u_r} ", where $l_e, l_{\Delta e}, l_{u_r} \in L$. In the table, each $Ri(i = 1,2,\ldots,49)$ represents one of labels, that is one of *NL, NM, NS, ZE, PS, PM* or *PL*. In Table 3, the rules are written in the form: "If the lateral acceleration error e_a is l_{e_a} and yaw rate

r is l_r, then output Δu_v, is l_{u_v} ", where $l_e, l_{\Delta e}, l_{u_r} \in L$. In the table, each $Qi(i = 1,2,\ldots,49)$ represents one of the labels $(NL, NM, NS, ZE, PS, PM, PL)$. Each Ri and Qi in Table 2 and Table 3 can be determined according to the system and control engineering experiences of designer.

Replace the paragraph beginning on page 19, line 17 with the following paragraph:

In the above example, the centroid computation yields:

$$u_r = \frac{\mu_1(\mu_{r1})u_{r1} + \mu_1(u_{r2})u_{r2} + \mu_1(u_{r2})u_{r2} + \mu_1(u_{r2})u_{r2}}{\mu_1(u_{r1}) + \mu_1(u_{r2}) + \mu_1(u_{r3}) + \mu_1(u_{r4})}$$

$$= \frac{(0.5\ x0.2) + (0.5\ x0.2) + (0.25\ x0.4) + (0.25\ x0.4)}{0.5 + 0.5 + 0.25 + 0.25} = 0.27$$

This is the final control output value in the given sampling time.

Respectfully submitted,

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